

REMARKS

The rejection of Claims 11-13, 26, 28-30 and 35 as being unpatentable over Kraemer in view of Wilber and of Claim 14 as being unpatentable over Kraemer in view of Wilber and further in view of Yasuhara, both under 35 U.S.C. § 103(a) are traversed. Reconsideration of each of these rejections is respectfully requested.

Applicants incorporate by reference herein their remarks regarding the Kraemer patent. They also now note that the hypothetical combination of the Kraemer solenoid valve and Wilber check valve could only be based upon impermissible hindsight reconstruction rather than an explicit or implicit suggestion in either document. In this connection, we note that the Office Action does not set forth any documented motivation for making such a hypothetical combination.

Specifically, the Wilber fuel injector employs a valve 26 that is used to allow the flow of fuel to the injector cavity while preventing reverse flow. The valve 26 opens and closes by movement of shuttle piston 14 that is synchronized with movement of a main pumping plunger 10. When the solenoid operated valve 28 is opened, the valve 26 stays closed because the shuttle position 14 does not move regardless of the movement of main pumping plunger 10. In other words, the valve 26 is performing its sole function of acting as a check valve.

The solenoid operated valve 28 does not act directly to the valve 26, and does not function to determine an open/close timing of the check valve 26.

Instead, the valve 28 controls only start and end timings of the shuttle movement valve. One of ordinary skill in the art will readily appreciate that the start and end timings of the shuttle valve movement is completely different with the open/close timing of the intake valve.

Even if, purely for argument's sake, it could be accepted (which, of course, Applicants cannot accept) that the teachings of Kraemer and Wilber would have somehow been combinable, those teachings would not have led to the present invention in which when the coil of a solenoid 200 is not energized, the intake valve 5 is kept open by a force in which the engaging member 201 is displaced to the left side by a spring 202 and by a fluid pressure differential between upper and lower portions of the intake valve 5. When the coil of the solenoid is energized, the engaging member 201 is drawn rightward (see Figs. 15 and 16) whereby the intake valve 5 is closed by a force of a spring 5a and the fluid pressure in the pressurizing chamber 12. As a result, closing timing of the intake valve 5 is controlled by timed energization of the solenoid coil.

Not only is the Wilber valving arrangement different from that of the claimed invention herein, it is totally different in function and structure as noted above, from that disclosed in Kraemer.

The Wilber document discloses a particular combination directed to a unit-injector in which a pump has been integrated with an injector. The movement and the function of the unit-injector in Wilber is very different from the high

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pressure fuel pump of the present invention, and it would be equally difficult to apply the Wilber valve mechanism to the Kraemer pump.

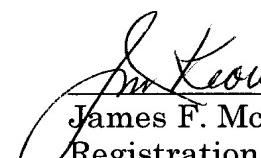
Accordingly, early and favorable action is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #056205.48558C1).

Respectfully submitted,

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